

### ABSTRACT

Periphyton filtration is a known method for performing bioremediation of polluted water, removing nutrients from the influent on which the attached algae thrive. The present system improves upon this method by adding a strong oxidizer to the influent, and, in some cases, to the effluent, to make organically bound nutrients available to a target culture of periphyton or aquatic plants to reduce the population of undesirable microinvertebrates, to make organically bound nutrients available to the periphyton, and to reduce the level of toxic compounds. A particular embodiment comprises ozonating the water. A pesticide may be added to control insect populations.